ExxonMobil
Environmental Services Company
2800 Decker Dr.
Baytown, TX 77520

Deborah A. Edwards
EMES Project Manager
Phone:281-834-8963
E-mail: Deborah.a.edwars@exxonmobil.com

ExxonMobil

March 31, 2016

Via electronic mail and overnight courier

Cami Grandinetti
Unit Chief, Remedial Cleanup Program Branch
EPA Region IX
Email: Grandinetti.cami@epamail.epa.gov
1200 6th Ave., Suite 900
Seattle, WA. 98101

Kristine Koch
Remedial Project Manager, Portland Harbor Superfund Site
Email: Koch.kristine@epamail.epa.gov

Sean Sheldrake
Remedial Project Manager, Gasco Site
Email: Sheldrake.sean@epamail.epa.gov

Re: *Investigation Reports by NewFields re PAH in RM 5-6, Portland Harbor*

Dear Ms. Grandinetti et al.:

I am the project manager for Exxon Mobil Corporation for certain projects concerning the Portland Harbor Superfund Site. As you may know, ExxonMobil formerly owned and operated an oil fuels terminal at about RM 5.2 (which is now owned by Shore Terminals) and it continues to own and operate a lubricant distribution facility at about the same location (but not river-front). As one of the potentially responsible parties that has been identified by the USEPA at the Portland Harbor site, ExxonMobil has undertaken a forensic investigation into the source of PAH in RM 5-6.

The results of our investigative work over the past few years are contained in two reports by Dr. Al Uhler of NewFields, who is a forensic expert on PAHs. We are providing copies of our reports to you (which are being sent on a flash drive by overnight courier), which we contend are highly relevant to the issue of the extent of the PAH impacts downstream of the former Gasco facility. A copy of the executive summary from the report on the 2015 investigation is attached. The NewFields reports conclude that the PAHs detected throughout RM 5-6 are overwhelmingly consistent with and attributable to releases at the Gasco site.

Given the clarity of the conclusions in these reports, we would like to discuss the implications of

these new data with you. We would be pleased to meet with you at your convenience.

Sincerely,

Deborah A. Edwards

Deborah A. Edwards
Project Manager

Enclosures
Cc: [sent via overnight courier, with enclosures]
Kevin Parrett, ODEQ

Executive Summary

The LWG Remedial Investigation identified an area between River Mile (RM) 5.0 and the St. Johns Bridge (located at approximately RM 6.0) that is contaminated with polycyclic aromatic hydrocarbons (PAH). The PAH levels were sufficiently high to deem part of this area a candidate for remediation**.** The 2015 EPA Draft Feasibility Study describes Remedial Action Level (RAL) concentrations and various remedial concentration contours for PAH in numerous segments of the river. The contoured areas of incremental PAH RALs between approximately RM 5 and the NW St. Johns Bridge are operationally defined in this report as the Remedial Alternatives Area.

NewFields conducted two sampling events in 2014 and 2015 to investigate the concentrations and chemical nature of PAH in the proposed Remedial Alternatives Area. This investigations had two main objectives:

1. Evaluate the nature (e.g. pyrogenic vs petrogenic) and source of PAH compounds in the sediments.
2. Determine concentrations of PAH at the current sediment surface, and three depths representing potential dredge horizon intervals (-48 to -49' CRD, -51' to -52' CRD, and -53' to -54' CRD).

Additionally, the potential for Principal Threat Waste (PTW) occurring in various depth intervals was examined. Eight COCs, previously identified in the 2015 EPA Draft Feasibility Study, were evaluated versus the corresponding PTW concentration thresholds for polychlorinated biphenyls (PCB); five chlorinated dioxin/furan congeners; DDT (dichlorodiphenyltrichloroethane) and its degradation products (collectively, DDx); and carcinogenic PAH (expressed as benzo(a)pyrene equivalents—BaP Eq).

Key findings from the NewFields investigation are:

- The highest PAH concentrations were found proximal to the former Gasco Property, and decreased systematically downstream from the property to at least RM 5. In the Remedial Alternatives Area, TPAH17 sediment concentrations averaged 67,677 µg/kg, and with a maximum of 2,389,590 µg/kg.
- The chemical characteristics of PAH found proximal to the former Gasco Property are consistent with pyrogenic MGP derived tar wastes. These high concentration PAH are highly pyrogenic in character, derived from combustion/pyrolysis processes, and distinct in chemical character and readily differentiated from petroleum-derived (petrogenic) PAH.
- The highest concentrations of TPAH17 occur along a downstream axis just west of center of the river channel. The concentration of TPAH17 varied with depth. The highest TPAH17 concentrations are found in current surface sediments, with lower concentrations noted with depth, and the east and west margins of the high concentration axis.
- The characteristics of PAH across the entirety of the proposed Remedial Alternative Area are highly pyrogenic in nature. "Tar balls" of pyrogenic MGP waste were found at numerous locations in the study area. With few exceptions (noted below), there is no evidence for petrogenic PAH in the study area sediments, regardless of depth interval. The data indicate that pyrogenic PAH are consistent with wastes from the former Gasco Property. MGP wastes are also the source of elevated concentrations of PAH in sediments proximal to the Former ExxonMobil Terminal.

- A small number (14) of sediment samples contained varying amounts of petroleum-derived PAH were found. Only two of these samples contained PAH above any RAL.
- RAL exceedances in the Remedial Alternatives Area are driven by pyrogenic PAH. 98% of all samples in the study area at concentrations above the lowest RAL G contained PAH of pyrogenic origin.
- The samples with any petrogenic content near the Former ExxonMobil Terminal all had concentrations below all RALs. Based on these data, the Former ExxonMobil Terminal accounted for none of PAH contamination in RM 5-6 that would require remediation.
- There was no evidence for chemicals of concern (PCBs, DDx, selected chlorinated dioxin/furan isomers, BaP Eq), in the proposed Remedial Alternatives Area at mean concentrations that would classify them as Potential Threat Wastes.

In summary, the overwhelming PAH signature in the proposed Remedial Alternatives Area is pyrogenic in nature, and likely arises from MGP wastes originating from the former Gasco Property. All of the samples in the proposed Remedial Alternatives Area, except two, at concentrations greater than Alternative G (5,400 µg/kg TPAH17—the lowest RAL concentration) are pyrogenic in nature. Finally the Former ExxonMobil Terminal does not appear to be the source of any PAH requiring remediation in RM 5-6.